

IN THE SPECIFICATION

On page 1, before line 3, insert:

--BACKGROUND OF THE INVENTION

Field of the Invention--.

On page 1, before line 8, insert:

--DESCRIPTION OF RELATED ART--.

Please replace the paragraph starting at page 1, line 8 and ending at line 18, with the following.

--The Achieving the most efficient method of interfacing a user [[to]] with a machine is a problem that has been given a great deal of consideration in the prior art. In one form of interface, a formal language is used for interaction between the user and the machine. An example of a formal language interface is the interface used in a telephone which has a number of buttons and a rigid specification for what happens when a certain sequence of buttons is pressed. The problem with this type of formal language interface is that it is not flexible and requires the user to learn the formal instructions required.--

Please replace the paragraph starting at page 1, line 20 and ending at page 2, line 17, with the following.

--In another type of interface, a natural language interface is used which allows input in many different ways. A natural language interface allows the user to input an instruction

in a more or less unrestricted way. Although the demand for learning using a natural language interface is low, when a machine is first used, or when a machine is used infrequently, users can feel uncertain about how to instruct a machine efficiently. The user may not know what words to use or how to phrase the instruction. They may use unusual words or words that are hard to ~~recognise or understand by~~ for the machine to recognise or understand. The user may not realise that something can be input in a simpler form. A user may spend a lot of time meandering around the various options a machine has available and then after ~~some time~~ some time arrive at the instruction that they are satisfied with. A user may then be left wondering how they could specify this instruction more efficiently or directly. If the machine has another mode of input e.g. buttons of a formal language interface, the user may specify instruction using the buttons of the formal language interface. The user may then be curious as to how the instruction could have been entered using the natural language interface.--

On page 2, before line 19, insert:

--SUMMARY OF THE INVENTION--.

Please replace the paragraph starting at page 2, line 19 and ending at page 3, line 4, with the following.

--The present invention provides an interface for a machine which can receive a number of natural language instructions to reach one of a plurality of possible machine states. The invention provides feedback to a user to ~~enable~~ inform them ~~to understand~~ of the natural language instructions which could have been input to reach the current state of the machine.

Thus the current state of the machine is determined and used to generate information to inform the user of natural language instructions which can be input to achieve the current state of the machine.--

Please replace the paragraph starting at page 4, line 8 and ending at line 11, with the following.

--The present invention is applicable to any processing apparatus such as a computer, a facsimile machine, or a photocopier. The interface can be provided in the apparatus.--

On page 5, before line 6, insert:

--BRIEF DESCRIPTION OF THE DRAWINGS--.

On page 6, before line 1, insert:

--DESCRIPTION OF THE PREFERRED EMBODIMENTS--.

Please replace the paragraph starting at page 6, line 18 and ending at page 7, line 5, with the following.

--The machine user interface 1 is provided with means to allow a user to request the output of a natural language instruction which could have been used by the user to achieve the current state of the machine. Thus the user request, when generated by a user, is input to a natural language generator 3 which upon receipt of the user request retrieves information on the

current state[[s]] of the machine from the machine status monitor 2. Using this information together with information in a database 4, ~~the~~ a natural language instruction appropriate to achieve the current state of the machine is generated and received by a natural language output generator 5 to output the natural language instruction to the user.--

Please replace the paragraph starting at page 7, line 13 and ending at page 8, line 9, with the following.

--In step S1 the process is started and in step S2 the interface waits until a user request is received by a natural language collector 30 in the natural language generator 3. When the user request is received, in step S3, the natural language collector 30 retrieves the machine state[[s]] from the machine status monitor 2 and determines whether the user has specified any commands. If the user has not specified any commands, e.g. if the machine is still in its default state, the natural language collector 30 does nothing and the process returns to step S2 to await a user request. If on the other hand, the user has specified commands, and the machine status is not in a default condition, in step S4, the natural language collector 30 uses attributes and values for the attributes for the machine state[[s]] to look up associated natural language fragments in the database 41 in order to create a sentence from the natural language fragments for each attribute. A sentence is created in accordance with generation patterns in the database 42. The generation patterns include natural language rules required to generate the natural language instruction.--

Please replace the paragraph starting at page 9, line 20 and ending at line 24, with the following.

--In the alternative embodiment of Figure 3b, the natural language instruction is input as text to a speech synthesiser 51 which generates speech data. The speech data is input to an audio ~~input~~ output device 52 which generates an audible natural language instruction to the user. —

Please replace the paragraph starting at page 12, line 1 and ending at line 12, with the following.

--The text replacer 32 in Figure 2 can replace text in dependence upon a user. For example if a user is a beginner, the text replacer 32 could replace more complex natural language instruction chunks with simpler terminology. The synonyms database 35 can for example take into consideration ~~previously used~~ terminology previously used by a user. For example, where a user previously input the natural language instruction “two sided” instead of “double sided” the text replacer 32 could replace “double sided” in the natural language instruction given above with “two sided” since this is the preferred form of the user.--

Please replace the paragraph starting at page 13, line 17 and ending at page 14, line 3, with the following.

--In a first scenario, a user who does not know how to use the voice interface goes to a copying machine and sets it to a state that means that it will make five double sided copies, enlarged to 141% and sorted. The command is executed and the user who is curious to know

how this could be done by voice, generates a user request e.g. presses a button. The machine then generates a natural language instruction and uses voice synthesis to say “copy five times double sided enlarged to A3 and sorted”. This command is not executed but is simply output for as information to the user so that they know this command for [[a]] next time.--

Please replace the paragraph starting at page 14, line 5 and ending at line 14, with the following.

--In a second scenario, a user goes to a copying machine and says “fax this to Frank”. They then see that the office number of Frank is recalled while they wanted the home telephone number. The user now starts to recite the entire number of Frank at home “fax this to 16483” but feels that there must be an easier way. Without executing the command they push the button generating a user request and there is displayed “fax this to Frank at home”. The user will thus learn the most efficient natural language command which ~~has been~~ can be used.--

Please replace the paragraph starting at page 14, line 16 and ending at line 24, with the following.

--In a final scenario, the user goes to a copying machine and wants to copy a book, so that the left half of something of [[A3]] A4 size is copied to the front of a B5 size paper, and the right half of the original on the backside. The user manages to set the options after numerous instructions and feels that there may be a quicker way. When the button is pressed to generate a user request, the machine uses speech synthesis to say “set to [[a]] A4 to B5 book copying”.--

On page 23, after "ABSTRACT," delete "NATURAL LANGUAGE MACHINE  
INTERFACE."